

MAR. -22' 04 (MON) 18:12

ALSTON & BIRD

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P. 018

In re: Mahajan et al..
Appl. No. 09/954,950
Filed September 18, 2001

APPENDIX TAB 1

FileUp - MLH1 & MutL sequences
March 9, 2004

Symbol comparison table: blosum62.cmp CompCheck: 1102
GapWeight: 8 GapLengthWeight: 2

1285AJ012747_pileup_113732.txt MSF: 861 Type: P March 9, 2004 15:49
Check: 3903 ..

U07343aa Protein encoded by GenBank U07343, human
U80054aa Protein encoded by GenBank U80054, Rat
AJ012747aa Protein encoded by GenBank AJ012747, A. thaliana
1285sid2 SEQ ID NO: 2, Rice
U07187aa Protein encoded by GenBank U07187, S. cerevisiae
P23367 SwissProt MutL, E. coli

FORMATTING:

Residues identical to 1285sid2

Residues similar to 1285sid2 (A, S, & T; M, I, L, & V; D & E; Q & N; P, Y, & W; and K & R. See, Creighton (1984) Proteins W.H. Freeman & Company)

Residues similar to 1285sid2, alternate conservative groups (A, S, T, P, & G; M, I, L, & V; D, E, Q, & N; K, R, & H; and Y, F, & W. As used in McKay et al. Genomics 36:305-315 1996))

MutL/PM51 Signature Sequence Underlined Bold (see Figure 2)

Pfam domain DNA-mis-repair Double-underlined Bold (Exhibit A, 5/19/03)

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1                               50
1285U07343aa ----- -M-EVAGVIR-RE-E-VVNR-AAGEVIQRP
1285U80054aa ----- -M-EVAGVIR-RE-E-VVNR-AAGEVIQRP
1285AJ012747 MTDDSELTAE MR-RESPATT IVPREPP-IQ RLERSVVNR-AAGEVIQRPV
1285sid2 ----- -M-RPPRGG GC-ORPRIR-ALHBVVNR-AAGEVIQRP
1285U07187aa ----- ----MSLR-ALHBVVN-AAGELSRPV
1285P23367 ----- ----MP-Q VLDP-ALHBVVN-AAGEVIQRP

51                               100
1285U07343aa NA-KEIRNC IDAK-ISQV IVK-GGLKI-QQDNGTQIR IQPY-QIR
1285U80054aa NA-KEIRNC IDAK-ISQV IVK-GGLKI-QQDNGTQIR KIDPD-QIR
1285AJ012747 SAVKELIRNS IDAP-ISSV VVKDQGLKI-QVSDQHQR REDLFILCR
1285sid2 SAVKELIRNS IDAP-ISSV AVKDGGLKI-QVSDQHQR REDLFILCR
1285U07187aa NA-KEIRNS IDAN-ISQV IVK-GGLKI-QQDNGSQIR KADP-QIR
1285P23367 SAVKELIRNS IDAP-ISSV AVKDGGLKI-QVSDQHQR KADP-QIR

101                               150
1285U07343aa HTTSKLO-IS PL-ISYGF RQALAS-IS VAVT-ISTKT ADGKCAYRAS
1285U80054aa HTTSKLO-IS PL-ISYGF RQALAS-IS VAVT-ISTKT ADGKCAYRAS
1285AJ012747 HTTSKLO-IS PL-ISYGF RQALAS-IS VAVT-ISTKT KQ-ISYRV
1285sid2 HTTSKLO-IS PL-ISYGF RQALAS-IS VAVT-ISTKT KQ-ISYRV
1285U07187aa HTTSKLO-IS PL-ISYGF RQALAS-IS VAVT-ISTKT KQ-ISYRV
1285P23367 HTTSKLO-IS PL-ISYGF RQALAS-IS VAVT-ISTKT KQ-ISYRV

mutL/PM51
signature
sequence

151                               200
1285U07343aa YSPK-IS KAP PKPCAGNQT Q-ISVEDLRYN-ISARK-ISTKT PS-ISYK
1285U80054aa YSPK-IS KAP PKPCAGNQT Q-ISVEDLRYN-ISARK-ISTKT PS-ISYK
1285AJ012747 YRNGV-MEHE PKACAAVKQT Q-ISVENLRYN-ISARK-ISTKT SADR-ISYK
1285sid2 YRNGV-MEHE PKPCAAVKQT Q-ISVENLRYN-ISARK-ISTKT SADR-ISYK
1285U07187aa YSPK-IS KAP PKPCAGNQT Q-ISVEDLRYN-ISARK-ISTKT PS-ISYK
1285P23367 YSPK-IS KAP PKPCAGNQT Q-ISVEDLRYN-ISARK-ISTKT PS-ISYK
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551 600
1285U07343aa EMTAACTPRR RIINL SVLS LQBB INBQO REVTN H H V. QCVN
1285U080054aa EMTAACYPDR RIINL SVLS LQBB INDRG HETIR N HT V. QCVN
1285AJ012747 LBBVOR L AG. DSCC HPG D TV N CTVV GAD
1285aid2 LBBRHS L VV. IDBBY HPG D TV N CTVV GAD
1285U07187aa DGYIRVPKER VNVN L BIKK DREK. DDBSI HREITDIFAN LNYV. G VV
1285P23367 aghvtiravp lplrqqlqi L BBI BgyL kge L pgni aqylaxn

601 650
1285U07343aa PQ.. ALAQH T LYI NIT K SEELFYOI L YDPANFV RLSEPAFIF
1285U080054aa PQ.. ALAQH T LYI NIT K SEELFYOI L YDPANFV RLSEPAFIF
1285AJ012747 V.. FALQY NTHLYIANV N BKEIMYQO LRRFANFNA TOS PAPIS
1285aid2 BA.. FALQY NTHLYIANV N BKEIMYQO LRRFANFNA TOS PAPIS
1285U07187aa BERRLAATOH DL L L DVG S CYELFYOI GLDDEANFCK TOSTNVS
1285P23367 ehaq.. aqa iE.. Lladve rcpq.. L ppgsl qav.. lhg..

651 700
1285U07343aa DA.. AL.. D SPESQWTEED GPKEG ABYI VFLLKKKEM A VES DID
1285U080054aa DA.. AL.. D SPESQWTEED GPKEG ABYI VFLLKKKEM A VES DID
1285AJ012747 BL.. ALK.. LDPGNDTKO DLNERTATN TFLKKKEM HETIR
1285aid2 BL.. ALK.. LDPGNDTKO DLNERTATN TFLKKKEM HETIR
1285U07187aa YNLLS POET... NDB ASKEKISKI W... SM NEW B L V
1285P23367 ..a kailqd

701 750
1285U07343aa E..G..... NLIGLP D VVPB GH PIF LRJAT VNW BKEOP
1285U080054aa E..G..... NLIGLP D VVPB GH PIF LRJAT VNW BKEOP
1285AJ012747 SSA..... NL RIRV L DQYTFMDR PEF LCLGNB VSW BKSCH
1285aid2 ..G..... KL RIRV L DQYTFMDR PEF LCLGNB VSW BKSCH
1285U07187aa PGLDNDLKS VKKSLP L KQYIPB V L PEF YRLGK VDW BKEOP
1285P23367

751 800
1285U07343aa E.. KRCAMP Y..... R QY L B LSGQ.....
1285U080054aa E.. KRCAMP Y..... R QY L B LSGQ.....
1285AJ012747 QGV..A QNP YA HRP LBN BQDGIQFYS KRO BSO KS DLBGN DMED
1285aid2 RV..A QNP YA HRP LBN BQDGIQFYS KRO BSO KS DLBGN DMED
1285U07187aa DG LRE ALL Y.. PDM PKV L LPSLSED BKAQT NRKE HISS.....
1285P23367

801 850
1285U07343aa ..QSE PGSI PN W... KWT BHH K R SH LPPKHF EDGNI Q AN
1285U080054aa ..QSE PGSP SKPW... KWT BHH K R SH LPPKHF EDGNI Q AN
1285AJ012747 N..Q.. LL..A RNANAQREW IQHVLPBMR LPLKPPKMA NHTVVKVAS
1285aid2 D..Q.. LL..A RNANAQREW IQHVLPBMR LPLKPPKMA NHTVVKVAS
1285U07187aa BHHVLPBMR RRFLAEN L KQ.. VMEAN
1285P23367

851 861
1285U07343aa LFDLYK FER C
1285U080054aa LFDLYK FER C
1285AJ012747 LFDLYK FER C
1285aid2 LFDLYK FER C
1285U07187aa LFDLYK FER C
1285P23367

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APPENDIX TAB 2